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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/775,922

02/10/2004

Michael F. McAllister

POU920020057US2

1394

7590

12/02/2005

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EXAMINER

TSUKERMAN, LARISA Z

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,922

Applicant(s)

MCALLISTER ET AL.

Examiner

Larisa Z. Tsukerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment dated 7/26/2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 4 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is confusing, how a fuzz button rivet expansion pin 65 is capable to insulate the plated through hole 34A/or 34B from the system board 50. Even though, the pin 65 made of polymer (also not clear from Specification is it conductive polymer or not), the through hole is in electrical contact with a pad 51 on the board 50, so the pin 65 cannot insulate the plated through hole from the system board 50, as claimed.

Claim Rejections - 35 USC § 102

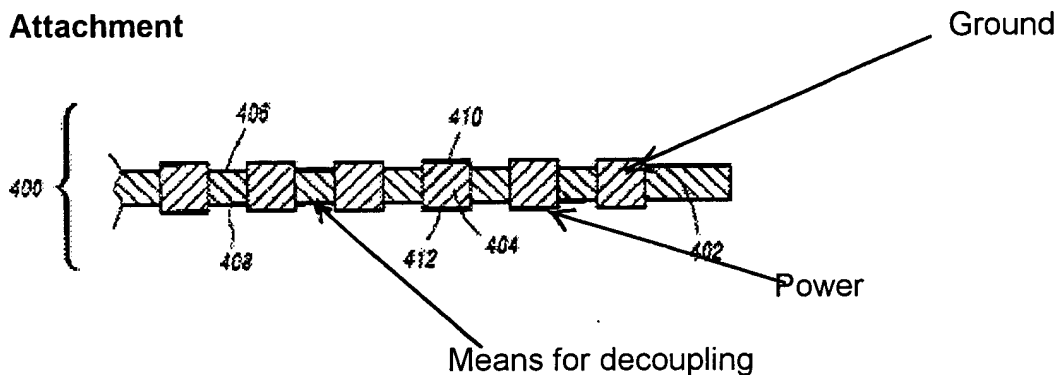
Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Tamarkin et al. (6,428,327).

As best understood, Tamarkin et al. disclose Land Grid Array structure (see Fig. 5A - 8) comprising:

a flex film interposer 400/or 500 for providing electrical connection disposed between a Multi-chip (MCM) 312 and the next level of integration of a LGA system 314 (board with pads), and the flex film 402 or 502, wherein the interposer 400/500 also provides means integral to the flex film interposer 400/500 (see Fig.5A) for implementing a

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desired Engineering Change (EC) (such a wire end 336, which provided for connection to the external circuit, or it can be every change in size of a board), and the flex film interposer 400/500 also integrally provides means for decoupling power to ground in the Land Grid Array structure to minimize switching activity effects on the Land Grid Array system when mounted on a system board 314 (see Attachment).

Attachment***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chance et al. (5177594) in view of Tamarkin et al. (6,428,327).

Chance et al. disclose Land Grid Array structure (see Fig. 1-2) comprising:

an interposer 50 for providing electrical connection disposed between a Multi-chip (MCM) 52 and a next level of integration of a Land Grid Array (LGA) system 54, wherein the interposer 50 also provides means integral to interposer 50 for implementing a desired Engineering Change (EC) (layer 60, see Fig.1 and Col.4, line 38-42) and the interposer 50 also integrally provides means (plan 58, see Fig.1) for decoupling (see Col.4, line 18) power to ground in the Land Grid Array structure (to minimize switching activity effects on the Land Grid Array system).

Chance et al. do not disclose the interposer comprising a flex film. Tamarkin et al. teaches a flex film interposer 400/500 (flex film 402 or 502) to flex in reaction to the force exerted by the compliant contacts of the interposer socket. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flex film interposer in structure of Chance et al., as taught by Tamarkin et al. in order to flex in reaction to the force exerted by the compliant contacts of the interposer socket.

Response to Arguments

Applicant's arguments filed on 07/26/2005 have been fully considered but they are not persuasive.

In regard to Applicant's arguments on page 3 that in Tamnrkin et al. reference a member 400/500 is a not an interposer and is not a flex film, because the interposer is element 330, Examiner disagrees. Adapter 400/500 provides an electrical connection

between 312 and 314, and also member 402 is a flex substrate, which examiner consider as a flex film.

In regard to Applicant's arguments that member 50 is not between the system board and the module, Examiner disagrees. The system board does not define in the Specification, or claims. An interconnection substrate 54 capable to perform the same function as a system board and examiner consider member 54 as a system board.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z. Tsukerman whose telephone number is (571)-

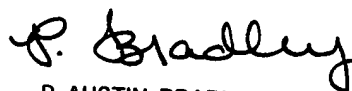
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272-2015. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (571)-272-2800 ex. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT, 11/18/2005


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